

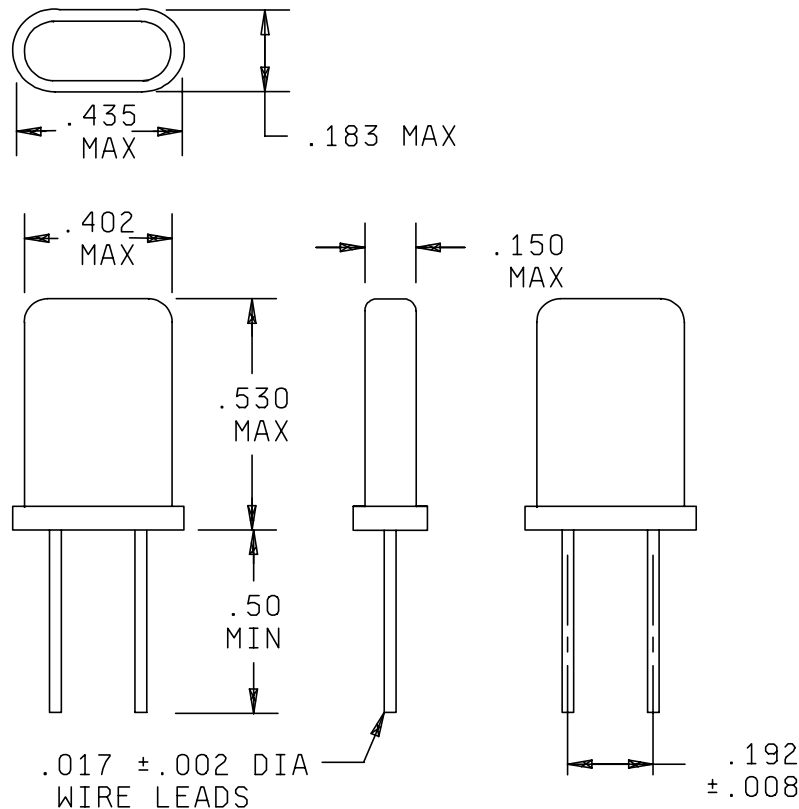
# PERFORMANCE SPECIFICATION SHEET

## CRYSTAL UNIT, QUARTZ, CR123/U

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-PRF-3098.

Pertinent characteristics: 50 MHz to 125 MHz; fifth mechanical overtone; controlled; series resonance.



Inches	mm
.002	.05
.008	.20
.017	.43
.150	3.81
.183	4.65
.192	4.88
.402	10.21
.435	11.05
.500	12.70
.530	13.46

### NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Marking to be in accordance with MIL-PRF-3098.

FIGURE 1. Crystal unit - CR123/U.

MIL-PRF-3098/100C

REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency range: 50 MHz to 125 MHz, inclusive.

Capacitance, shunt: 4.5 pF, maximum.

Frequency tolerances:

Operating temperature range:  $\pm 10$  ppm.

Reference temperature:  $\pm 10$  ppm.

Room temperature:  $\pm 80$  ppm.

Frequency stability:  $\pm 2.5$  ppm.

Mode of oscillation: Fifth mechanical overtone.

Rated drive level: 1.0 mW, maximum.

Resonance: Series.

Reference temperature:  $+85^{\circ}\text{C} \pm 1^{\circ}\text{C}$ .

Temperature ranges:

Operating (controlled):  $+80^{\circ}\text{C}$  to  $+90^{\circ}\text{C}$ , inclusive.

Operable:  $-55^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  and  $+90^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ .

Equivalent resistance: 60 ohms, maximum.

Unwanted modes: Minimum unwanted mode effective resistance of 120 ohms or an unwanted to main mode resistance ratio of 3:1, whichever is greater.

Shock (specified pulse):

Frequency change permitted:  $\pm 5$  ppm.

Equivalent resistance change permitted:  $\pm 10$  percent.

Vibration: Method 204, MIL-STD-202, test condition A; 0.06 inch double amplitude or 5 gravity units, whichever is less.

Frequency change permitted:  $\pm 5$  ppm.

Equivalent resistance change permitted:  $\pm 10$  percent.

Thermal shock:  $\pm 10$  ppm.

Aging:

Frequency change permitted:  $\pm 5$  ppm.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

MIL-PRF-3098/100C

Custodians:

Army - CR  
Navy - EC  
Air Force -85

Review activities:

Air Force - 17, 99

Preparing activity:

Army - CR

Agent:

DLA - CC

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